

## Message Text

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PAGE 01 BUENOS 05599 012121Z  
ACTION ACDA-10

INFO OCT-01 ARA-10 EUR-12 ISO-00 CIAE-00 INR-07 IO-13  
L-03 NSAE-00 NSC-05 EB-08 NRC-05 OES-07 DODE-00  
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ERDA HQ GERMANTOWN  
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AMEMBASSY PARIS  
AMEMBASSY MADRID  
AMEMBASSY LONDON  
AMEMBASSY BRUSSELS  
AMEMBASSY BONN

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USIAEA

USEEC

E.O. 11652: N/A  
TAGS: TECH, PARM, AR  
SUBJECT: ARGENTINE NUCLEAR ENERGY PROGRAM

1. SUMMARY, CNEA PRESIDENT CASTRO MADERO HAS SUMMARIZED ARGENTINA'S  
NUCLEAR PROGRAM, PRESENT AND FUTURE. HE CONFIRMED PLANS TO BUILD  
ANOTHER CANDU AS ATUCHA 2. TIME SCHEDULES WERE IDENTIFIED FOR SOME  
OF THE STEPS IN THE FRONT END OF THE FUEL CYCLE. CASTRO MADERO  
INDICATED THAT AN EXPERIMENTAL REPROCESSING PLANT WOULD BE BUILT,  
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IN VIEW OF LONG-TERM NEEDS TO RECYCLE PLUTONIUM. HE ADMITTED  
THAT HEAVY WATER PLANT CONSTRUCTION WAS BEING THWARTED BY FOREIGN  
TECHNOLOGY TRANSFER RESTRICTIONS. END SUMMARY.

2. ARGENTINE ATOMIC ENERGY COMMISSION (CNEA) PRESIDENT ADM.  
CARLOS CASTRO MADERO GAVE EXTENSIVE TALK ON PRESENT AND FUTURE  
PLANS FOR ATOMIC ENERGY IN ARGENTINA AT ARGENTINE CENTER FOR

ENGINEERS ON JULY 28.

3. NUCLEAR POWER. CASTRO MADERO REPORTED THAT ATUCHA 1 POWER LEVEL HAD BEEN SUCCESSFULLY RAISED TO 370 MW AND THAT EMBALSE CIVIL WORKS WERE NOW 33 PERCENT COMPLETED. HE ESTIMATED THAT ARGENTINE NATIONAL INDUSTRY WOULD PROVIDE 50 PERCENT OF EMBALSE PROJECT. HE CONFIRMED THAT PLANS CALLED FOR ATUCHA TO BE BASED ON CANADIAN (CANDU) TECHNOLOGY.

4. PERUVIAN RESEARCH CENTER. ARGENTINE PROPOSAL WAS TO PROVIDE AN EXTENSIVE COMPLEX OF BUILDINGS FOR PERU'S NUCLEAR RESEARCH CENTER. CASTRO MADERO DESCRIBED ARGENTINE OFFER AS TRANSFERRING MORE TECHNOLOGY THAN COMPETING OFFERS FROM FRANCE, SPAIN, AND U.K. CASTRO MADERO WAS CAREFUL TO NOTE THAT A DECISION HAD YET TO BE MADE, BUT THAT IT WAS HOPED TO HAVE THE ZERO POWER REACTOR OPERATING IN PERU BY MARCH 1978, ONE YEAR AFTER PRESIDENT VIDELA'S VISIT TO PERU. HE HOPED TO HAVE THE AGREEMENT COMPLETED BY SEPTEMBER.

5. FUEL CYCLE. CASTRO MADERO NOTED THE EXTENSIVE CAPABILITIES WHICH ARGENTINA HAS, THOUGH INDICATING THAT IT REMAINED "DEPENDENT" (ON FOREIGN SUPPLIERS) FOR FUEL ELEMENTS AND HEAVY WATER. AFTER DESCRIBING THE URANIUM FUEL CYCLE, CASTRO MADERO INDICATED THAT REPROCESSING WAS NOT RPT NOT NECESSARY FOR THE NATURAL URANIUM CYCLE.

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6. RAW MATERIAL. CNEA'S PLANS CALL FOR COMPLETION OF THE "LOS ADOBES" MILL IN CHUBUT WITH A CAPACITY OF 60 TONS/YEAR. THE "DON OTTO" MILL IN SALTA IS TO BE ENLARGED TO 60 TONS/YR, AND THE MALARGUE PLANT IN MENDOZA TO 120 TONS/YR. A FEASIBILITY STUDY WILL BE MADE CONCERNING THE TONCO PROJECT IN SALTA. THE PERLIMINARY DESIGN AND INFRASTRUCTURE WILL BE COMPLETED FOR THE SIERRA PINTADA PROJECT IN MENDOZA (720 TO 850 TONS/YR.)

7. FUEL PROCESSING AND FABRICATION. CONSTRUCTION OF A CONVERSION PLANT WILL BE COMPLETED IN 1978 AND UO<sub>2</sub> SINTERING CAPABILITY IN 1979. THE FUEL ELEMENT PROTOTYPES BUILT IN ARGENTINA WILL SOON BE INSERTED IN ATUCHA 1. CONSTRUCTION OF THE FUEL ELEMENT FABRICATION PLANT HAS BEGUN, AND THE PLANT IS TO BE OPERABLE IN 1979. A ZIRCALOY TUBE PILOT PLANT IS BEING BUILT THIS YEAR; A PRODUCTION PLANT AT EZEIZA SHOULD BE IN OPERATION IN 1980. A PILOT PLANT TO PRODUCE ZIRCALOY SPONGE IS UNDER CONSTRUCTION AT BARILOCHE; CASTRO MADERO INDICATED THAT THIS PLANT WOULD USE A METHOD SUPERIOR TO THAT IN USE IN THE DEVELOPED COUNTRIES. A TESTING LABORATORY FOR FUELS AND OTHER IRRADIATED MATERIAL WOULD, HE SAID, BE COMPLETED AT EZEIZA IN 1978. WITH FRG ASSISTANCE, A HIGH PRESSURE TEST LOOP WOULD BE

IN OPERATION IN 1978. FABRICATION OF FUEL ELEMENTS WITH MIXED OXIDES WAS PLANNED AT BARILOCHE.

8. REPROCESSING. WHILE THE NATURAL URANIUM CYCLE DID NOT RPT NOT REQUIRE REPROCESSING, CASTRO MADERO AGAIN NOTED THAT BY THE YEAR 2000 ARGENTINA WOULD HAVE A LARGE ENERGY SOURCE IN PLUTONIUM. BECAUSE OF THIS, CNEA WAS DEVELOPING AN EXPERIMENTAL REPROCESSING PLANT, WHICH WOULD SERVE TO TRAIN PERSONNEL TO WORK IN THIS FIELD.

9. HEAVY WATER. CASTRO MADERO INDICATED THAT CNEA WILL NEED A PRODUCTION PLANT BY 1983. A TWO TON/YR PILOT PLANT WOULD DEVELOP THE KNOW-HOW NECESSARY FOR FUTURE PRODUCTION PLANTS. IN THE MEANTIME, CNEA HOPES TO BUY A 200 TON/YR PLANT ON A LIMITED OFFICIAL USE

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TURNKEY BASIS, SUBJECT TO "CANADIAN" WILLINGNESS.

10. WASTE DISPOSAL. CNEA PLANS A PILOT VITRIFICATION PLANT, LOOKING TO THE EVENTUAL NEED FOR DISPOSAL OF HIGH LEVEL WASTES AFTER REPROCESSING.

11. PERSONNEL. CASTRO MADERO REPORTED THAT A NEW TRAINING COURSE FOR NUCLEAR ENGINEERS WOULD BEING IN AUGUST AT BARILOCHE. HE ADMITTED THAT THE EXODUS OF PERSONNEL, PARTICULARLY YOUNG ENGINEERS, CONTINUED, WITH A HIGH PERCENTAGE LEAVING FOR MUCH HIGHER SALARIES IN ARGENTINE INDUSTRY. (CNEA, WORKING THRU THE NAVY R&D SERVICE (SENID) IS TRAINING PH.D.'S IN ENGINEERING ABROAD.

12. THE INTERNATIONAL SCENE. CASTRO MADERO STRESSED THE INCREASING RESTRICTIONS ON ACCESS TO FOREIGN TECHNOLOGY AS PROVIDING A GREAT INCENTIVE FOR ARGENTINA TO DEVELOP ITS OWN CAPABILITIES. HE CHARACTERIZED THE PRESENT ATTITUDE OF THE "GREAT POWERS" AS BELIEVING THAT SAFEGUARDS HAD FALLEN APART (ESPECIALLY IN VIEW OF THE INDIAN NUCLEAR EXPLOSION). HE OBSERVED THAT THE NPT CALLED FOR VOLUNTARY INSPECTIONS NOTING THAT ARGENTINA HAD NOT RPT NOT SIGNED THE TREATY BECAUSE IT WAS DISCRIMINATORY AND TREATED COUNTRIES UNEQUALLY. WITH ADVENT OF THE "LONDON CLUB" HAD COME MUCH STRICTER SAFEGUARDS AND ESSENTIALLY NO RPT NO TECHNOLOGY TRANSFER IN FOUR AREAS: ENRICHMENT, HEAVY WATER, PLUTONIUM TECHNOLOGY, AND REPROCESSING. ARGENTINA WAS AFFECTED WITH RESPECT TO HEAVY WATER.

13. QUESTIONS. CASTRO MADERO RESPONDED TO A NUMBER OF QUESTIONS FROM THE FIFTY-OR-SO ARGENTINE ENGINEERS IN THE AUDIENCE. ON HEAVY WATER, HE STATED THE NEED FOR 480 TONS FOR EACH 600 MW CANDU REACTOR. HE ALSO CITED THE H<sub>2</sub>SO<sub>4</sub> ISOTOPIC EXCHANGE TECHNIQUE AS THE DESIRED PROCESS. HE LIMITED OFFICIAL USE

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REFUSED TO COMMIT HIMSELF TO NUCLEAR POWER UNITS BEYOND ATUCHA 2,  
DEFERRING TO THE PLANS BEING DEVELOPED BY THE ENERGY  
SECRETARIAT, HOWEVER HE DID NOTE THAT CNEA WAS DOING PRE-  
LIMINARY WORK ON SITES NEAR BAHIA BLANCA AND MENDOZA, AND ITS  
TRAINING PROGRAM ASSUMED SUCH PLANTS WOULD BE BUILT.

14. COMMENTS BEING PROVIDED SEPTTEL (NOTAL).  
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## Message Attributes

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